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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/734,953	12/11/2000	Bruce M. Schena	IMM1P034A	6372

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COOLEY GODWARD LLP
ATTN: PATENT GROUP
11951 FREEDOM DRIVE, SUITE 1700
ONE FREEDOM SQUARE- RESTON TOWN CENTER
RESTON, VA 20190-5061

EXAMINER

BRIER, JEFFERY A

ART UNIT PAPER NUMBER

2672

DATE MAILED: 07/07/2003

23

Please find below and/or attached an Office communication concerning this application or proceeding.

23

Office Action Summary

Application No.

09/734,953

Applicant(s)

SCHEMA ET AL.

Examiner

Jeffery A. Brier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06/11/03 & 05/08/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 39,40,42-44,49,50,52-54 and 61-79 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 39,40,42-44,49,50,52-54 and 61-66 is/are allowed.
- 6) ☒ Claim(s) 67- 79 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 20.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/08/03 has been entered.

Specification

2. The attempt to incorporate subject matter into this application by reference to 08/879,296 is improper because essential material may not be incorporated by reference to a U.S. Patent that itself incorporates essential material. The patent, 6,078,308, incorporates many U.S. Patents and U.S. Patent Applications and it is difficult to determine if it incorporates essential material, thus, applicant should amend this application's specification to include the subject matter of 6,078,308 that supports independent claims 42 and 52.

Response to Arguments

3. The argument filed on 05/08/03 have been considered with the following effect.

Applicant's arguments with respect to the 112 first paragraph rejection of claims 39, 40, 42-44, 49, 50, 53, 54, 61, 62, 64, and 65 have been fully considered and are persuasive, column 18 lines 24-27 of U.S. Patent 6,078,308 provides essential material which supports these claims.

Applicant's arguments with respect to the 112 first paragraph rejection of claims 75 and 77 have been fully considered and are persuasive, the amendment to these claims overcomes the 112 first paragraph rejection.

Applicant's arguments concerning the 112 first paragraph rejection of claims 67-71 have been fully considered but they are not persuasive because the language of this claim is broader than the language used in the specification, thus, these claims are claiming more than was disclosed in the specification.

Applicant's arguments concerning the 112 first paragraph rejection of claims 70, 73, 78 and 79 have been fully considered but they are not persuasive because the U.S. Patent No. 6,252,579, corresponding to serial no. 08/924,462 incorporated by reference at page 11 lines 9-14, page 13 lines 26-32, and page 30 lines 31-36 of this application's specification, does not support scrolling speed being proportional to haptic feedback. Page 14 lines 7-8 correlates penetration of the cursor with scrolling speed and does not correlate haptic feedback with scrolling speed. Additionally, this is the second patent applicant claims to provide essential material for the claimed invention. Applicant should note a patent may incorporate essential material by reference to a patent, in this

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application applicant is incorporating two patents by reference to provide essential material. MPEP 608.01(p).

Applicant's arguments concerning the 103 rejection of claim 72 have been fully considered but they are not persuasive because switch 54 of Jacobus selects a type of haptic feedback, force control or virtual reality force fields, to be provided by the haptic feedback device, hand controller 52, and this selection causes the hand controller 52 to apply a different haptic feedback to the user which meets the claimed "modifying the type of haptic feedback output based on the selected type of haptic feedback" limitation.

Applicant's arguments concerning the 103 rejection of claim 76 have been fully considered but they are not persuasive because switch 54 of Jacobus selects a type of haptic feedback, force control or virtual reality force fields, to be provided by the haptic feedback device, hand controller 52, and this selection causes the hand controller 52 to apply a different haptic feedback to the user which meets the claimed "modifying the type of haptic feedback output by the actuator" limitation.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 67-71, 73, 78 and 79 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to

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reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 67-71:

Claim 67 claims the haptic feedback being representative of a resistive spring force opposing a movement of said cursor displayed on the graphical interface. The description described a spring force opposing the movement of the cursor through a window border but did not describe using a spring force to oppose movement of the cursor through other graphical objects such as the icon of the previous claims.

Claims 70, 73, 78, and 79:

These claims claim a speed at which the document is scrolled being proportional to a magnitude of the haptic feedback. The specification described at page 14 lines 4-8 controlling the speed of scrolling based upon the penetration of the mouse against the spring force at the window border and did not describe using other haptic feedback forces and/or other graphical objects to control the speed of scrolling.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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7. Claims 72 and 74-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jacobus, U.S. Patent No. 5,389,865, in view of Salcudean, U.S. Patent No. 5,790,108.

Jacobus teaches a force feedback user interface device that allows a user to interact with a virtual environment, column 4 line 26. Jacobus goes into great detail about how the user interacts with a virtual tactile environment, column 2 line 58 to column 3 line 14 and column 4 line 57. Jacobus does not clearly state that the virtual environment includes a graphical environment but the word virtual environment suggests graphical because a virtual environment includes visual (graphical), tactile and other senses. Jacobus teaches functionality buttons. Jacobus also does not mention cursors interacting with graphical objects or regions. Jacobus at column 7 lines 1-24 describes the functionality buttons (switches 54) as follows:

Included as an integral part of the hand grip assembly are three switches 54, a trigger 56 which works through an L-shaped level to push a Linear Rheostat or an LVDT 192, and a palm grip 58 which works through depressing a limit switch 194. The switches 54 allow the operator to select software driver programmed modes of operation such as position, velocity, or force control, perform scaling between the hand grip motion and motion of the simulation, provide selection between one or more virtual reality force fields and/or selectively activate or deactivate particular joints of the hand controller.

The trigger grip provides a continuous change in resistive value as a function of depression or displacement, and can thus be used to actuate an end effector or other continuously controlled virtual mechanism.

The palm grip can be sensed as either pressed or not pressed, indicating whether the user has a firm grip of the handle assembly or not. Normally the software driver uses this switch to control hand controller safety functions--if it is not firmly pressed all active power to the hand controller actuators is interrupted.

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However, the switch can be sensed and decoded in the software driver as well.

Salcudean teaches a force feedback user interface device that allows a user to interact with a graphical user interface by moving a cursor or pointer over the displayed graphical user interface image, column 8 line 66 to column 10 line 3.

An analysis of the claims and the prior art follows:

Claim 72:

Jacobus teaches: a haptic feedback device (figures 5a-5c, manipulator 50, see column 5 lines 15-46);

outputting a position signal correlated to the movement of the haptic feedback device(column 4 lines 58-63, stick or handle 52, column 5 line 26);

outputting haptic feedback at the haptic feedback device based on a feedback signal (column 4 lines 63-68);

selecting a type of haptic feedback to be provided to the haptic feedback device using a button on the haptic feedback device (switch 54 of Jacobus selects a type of haptic feedback, force control or virtual reality force fields, to be provided by the haptic feedback device, hand controller 52); and

modifying the type of the haptic feedback output based on the selected type of haptic feedback (the force control or virtual reality fields selected by switch 54 causes the hand controller 52 to apply a different haptic feedback to the user, column 7 lines 5-12).

Jacobus does not teach updating data values associated with a location of a cursor displayed on a graphical interface (lines 4-5) and the feedback signal being correlated with the data values associated with the location of the cursor corresponding to data values associated with one of a graphical objects and graphical regions displayed on the graphical interface (lines 7-9).

Salcudean teaches a force feedback user interface device that allows the user to control a displayed cursor illustrated in figure 12 (column 9 line 4 to column 10 line 3) and that gives the user haptic feedback as the cursor or pointer is moved over the graphical image.

It would have been obvious to one of ordinary skill in the art the time of applicants invention to use the haptic (force) feedback device teaching of Jacobus to control a cursor in a graphical display as taught to be old and well known by Salcudean because Jacobus suggests this by allowing a user to interact with a virtual environment at column 4 lines 25-29 of Jacobus.

Claim 74:

Jacobus teaches at least three switches 54 (see figure 12a) used to control the haptic feedback characteristics of the device.

Claim 75:

The different feedback characteristics of the device would include haptic feedback having different force functionality since the different haptic feedback would have different forces.

Claim 76:

This claim is similar in scope to claim 72 and is rejected for the same reasons given for claim 72 and in addition the limitation the haptic feedback being a first haptic feedback when the button is in a first position and being a second haptic feedback when the button is in a second position does not distinguish from Jacobus since the type of switch being claimed is equivalent to two of switches 54 since when a first switch is depressed the system operates under a first haptic feedback and when a second switch is depressed the system will operate under a second haptic feedback. It would have been obvious to one of ordinary skill in the art the time of applicants invention to use the claimed button instead of two buttons (Jacobus) because Jacobus suggests this by allowing a user to select the type of haptic feedback with closely spaced buttons which allows the user to easily select the type of haptic feedback and a single switch would allow even easier selection.

Claim 77:

Column 10 line 31 to column 12 line 13 describes a first haptic feedback that is representative of resistive spring force (k, K), see figure 15D and column 11 lines 13-16. The second haptic feedback characteristics selected by one of buttons 54 of the device would include haptic feedback having different force functionality since the different selected haptic feedback would have different forces.

Allowable Subject Matter

8. Claims 63 and 66 are allowed.

The prior art of record does not teach or suggest an indexing button on the force feedback interface device enabling an indexing mode. This is described in applicant's specification at page 12 line 33 to page 13 line 12.

9. Claims 39, 40, 42-44, 49, 50, 52-54, 61, 62, 64, and 65 are allowed.

The prior art of record does not teach or suggest when or after a force functionality button is depressed by the user and when the cursor crosses a border of a click surface applying by the actuator a spring force resisting motion of the cursor into said click surface. The closest prior art is Salcudean which at column 9 lines 44-48 describes transferring the tactile sense of pressing a button when the pointer or cursor presses the softbutton, but does not teach the force functionality button and does not teach applying a spring force resisting motion of the cursor as the cursor crosses the border of the click surface into the click surface.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A. Brier whose telephone number is (703) 305-4723. The examiner can normally be reached on M-F from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached at (703) 305-4713).

Any response to this action should be mailed to:

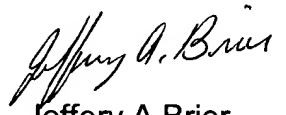
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


Jeffery A Brier
Primary Examiner
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